

Title (en)
Semiconductor device and manufacturing method thereof.

Title (de)
Halbleiteranordnung und Verfahren zu ihrer Herstellung.

Title (fr)
Dispositif semi-conducteur et sa méthode de fabrication.

Publication
EP 0299505 B1 19950913 (EN)

Application
EP 88111399 A 19880715

Priority
JP 17788787 A 19870716

Abstract (en)
[origin: EP0299505A2] A semiconductor device comprising three recessed portions (11, 12, 13; 32, 33, 34) formed at a very small pitch on the surface of a semiconductor substrate, remaining regions (14, 15; 35, 36) formed between these recessed portions as impurity diffused regions serving as the source and the drain, respectively, and a conductive region as a gate electrode formed through an insulating film within the central recessed portion (12; 33), and a method of manufacturing such a semiconductor device are disclosed. with this device, its gate length can be made shorter than that in the prior art and the junction leakage is reduced, resulting in miniaturization and an improvement in the characteristics.

IPC 1-7
H01L 29/08; **H01L 29/10**; **H01L 29/78**

IPC 8 full level
H01L 29/78 (2006.01); **H01L 21/336** (2006.01); **H01L 29/08** (2006.01); **H01L 29/423** (2006.01)

CPC (source: EP KR US)
H01L 29/0847 (2013.01 - EP US); **H01L 29/66621** (2013.01 - EP US); **H01L 29/78** (2013.01 - EP US); **H01L 29/94** (2013.01 - KR); **Y10S 148/053** (2013.01 - EP US)

Cited by
US5998835A; US5846862A; US6207540B1; US6323524B1; WO9853492A1; WO9943029A1; WO9917370A1

Designated contracting state (EPC)
DE FR GB

DOCDB simple family (publication)
EP 0299505 A2 19890118; **EP 0299505 A3 19900124**; **EP 0299505 B1 19950913**; DE 3854455 D1 19951019; DE 3854455 T2 19960314; JP H0640583 B2 19940525; JP S6421967 A 19890125; KR 890003049 A 19890412; KR 910006703 B1 19910831; US 4952993 A 19900828; US 5093273 A 19920303

DOCDB simple family (application)
EP 88111399 A 19880715; DE 3854455 T 19880715; JP 17788787 A 19870716; KR 880008839 A 19880715; US 21891388 A 19880714; US 54730990 A 19900703